

**What Is Claimed Is:**

SUB A17

1. A method for facilitating use of a collation element that supports a large number of characters, comprising:
  - receiving the collation element;
  - reading a primary weight value from a primary weight field within the collation element;
  - if the primary weight value falls within a reserved set of values, reading an additional portion of the primary weight value from a secondary weight field and a tertiary weight field within the collation element; and
  - if the primary weight value is not within the reserved set of values,
    - reading a secondary weight value from the secondary weight field within the collation element, and
    - reading a tertiary weight value from the tertiary weight field within the collation element.
2. The method of claim 1, wherein if the primary weight value falls within a reserved set of values, the method additionally comprises:
  - setting the secondary weight value to a secondary default value; and
  - setting the tertiary weight value to a tertiary default value.
3. The method of claim 1, wherein the collation element adheres to a structure specified in Unicode Technical Report No. 10.
4. The method of claim 1, wherein the primary weight value identifies a character;



2 wherein the sorting key is associated with a record within a database; and  
3 wherein the sorting key is used to construct a linguistic index for the  
4 database.

1 10. A computer-readable storage medium storing instructions that  
2 when executed by a computer cause the computer to perform a method for  
3 facilitating use of a collation element that supports a large number of characters,  
4 the method comprising:  
5 receiving the collation element;  
6 reading a primary weight value from a primary weight field within the  
7 collation element;  
8 if the primary weight value falls within a reserved set of values, reading an  
9 additional portion of the primary weight value from a secondary weight field and a  
10 tertiary weight field within the collation element; and  
11 if the primary weight value is not within the reserved set of values,  
12 reading a secondary weight value from the secondary  
13 weight field within the collation element, and  
14 reading a tertiary weight value from the tertiary weight field  
15 within the collation element.

1 11. The computer-readable storage medium of claim 10, wherein if the  
2 primary weight value falls within a reserved set of values, the method additionally  
3 comprises:  
4 setting the secondary weight value to a secondary default value; and  
5 setting the tertiary weight value to a tertiary default value.



17. The computer-readable storage medium of claim 16, wherein the method further comprises constructing a sorting key for a string by:

~~reading each character in the string;~~

looking up a corresponding collation element for each character from the collation weight table; and

adding the corresponding collation element for each character to the sorting key.

18. The computer-readable storage medium of claim 17,  
wherein the sorting key is associated with a record within a database; and  
wherein the sorting key is used to construct a linguistic index for the  
database.

19. An apparatus that facilitates use of a collation element that supports a large number of characters, comprising:

an assignment mechanism that is configured to read a primary weight value from a primary weight field within the collation element;

wherein if the primary weight value falls within a reserved set of values, the assignment mechanism is configured to read an additional portion of the primary weight value from a secondary weight field and a tertiary weight field within the collation element; and

wherein if the primary weight value is not within the reserved set of values, the assignment mechanism is configured to,

read a secondary weight value from the secondary weight field within the collation element, and to

read a tertiary weight value from the tertiary weight field within the collation element.

1        20.        The apparatus of claim 19, wherein if the primary weight value  
2 falls within the reserved set of values, the assignment mechanism is configured to:  
3                set the secondary weight value to a secondary default value; and to  
4                set the tertiary weight value to a tertiary default value.

1           21.     The apparatus of claim 19, wherein the collation element adheres  
2     to a structure specified in Unicode Technical Report No. 10.

1           22.     The apparatus of claim 19,  
2           wherein the primary weight value identifies a character;  
3           wherein the secondary weight value can specify an accent on the character;  
4     and  
5           wherein the tertiary weight value can specify case information for the  
6     character.

23. The apparatus of claim 19, wherein the collation element is four bytes in size, of which the primary weight field is two bytes, the secondary weight field is one byte and the tertiary weight field is one byte, unless a value in the primary weight field belongs to the reserved set of values, in which case the primary weight field takes up all four bytes of the collation element.

24. The apparatus of claim 23, wherein the reserved set of values for the primary weight value includes hexadecimal values 0xFFF0-0xFFFF.

1        25.    The apparatus of claim 19, wherein the collation element is taken  
2        from a collation weight table that is used to map characters to collation weights in  
3        order to establish an ordering between strings of characters.

1        26.    The apparatus of claim 25, further comprising a key construction  
2        mechanism for constructing a sorting key for a string, wherein the key  
3        construction mechanism is configured to:  
4            read each character in the string;  
5            lookup a corresponding collation element for each character from the  
6        collation weight table; and to  
7            add the corresponding collation element for each character to the sorting  
8        key.

1        27.    The apparatus of claim 26,  
2        wherein the sorting key is associated with a record within a database; and  
3        wherein the sorting key is used to construct a linguistic index for the  
4        database.